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H11AA1, H11AA2, H11AA3, H11AA4
H11AA1X, H11AA2X, H11AA3X, H11AA4X

A.C. INPUT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

Jameco Part Number 18825

APPROVALS

- UL recognised, File No. E91231
- CSA recognised, Cert. No. CA 110306-1

'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead form : -
  - STD
  - G form
  - SMD approved to CECC 00802

DESCRIPTION

The H11AA series of optically coupled isolators consist of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

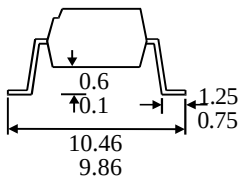
FEATURES

- Options :-
  10mm lead spread - add G after part no.
  Surface mount - add SM after part no.
  Tape&reel - add SMT&R after part no.
- High Isolation Voltage ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

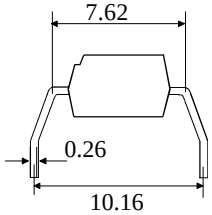
APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances

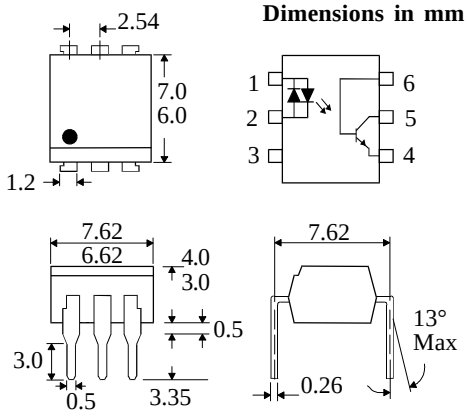
OPTION SM
SURFACE MOUNT



OPTION G



Dimensions in mm



ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-55°C to + 150°C
Operating Temperature	-55°C to + 100°C
Lead Soldering Temperature (1/16 inch (1.6mm) from case for 10 secs)	260°C

INPUT DIODE

Forward Current	±100mA
Peak Forward Current	±1A
Power Dissipation	200mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	30V
Collector-base Voltage BV_{CBO}	70V
Emitter-collector Voltage BV_{ECO}	7V
Emitter-base Voltage BV_{EBO}	5V
Power Dissipation	300mW

POWER DISSIPATION

Total Power Dissipation	350mW
(derate linearly 4.67mW/°C above 25°C)	

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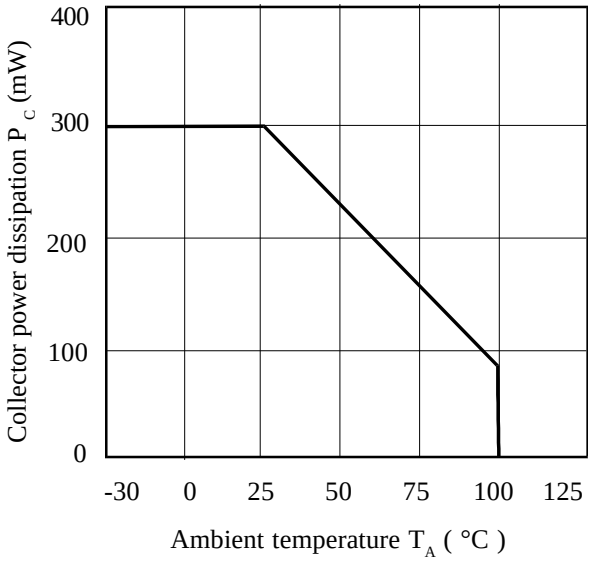
ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

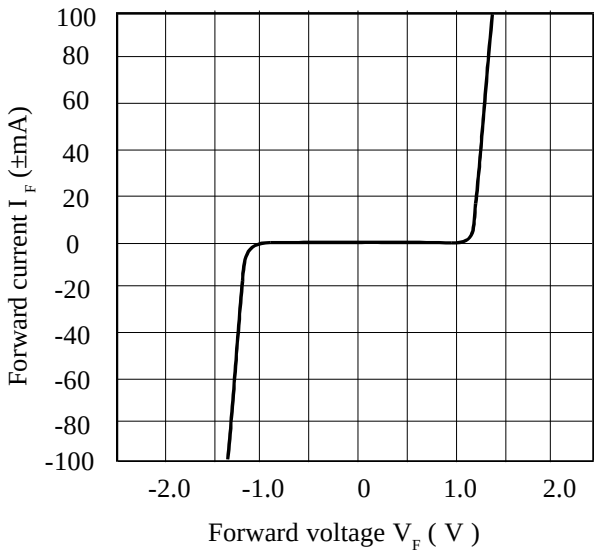
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	I_F = ±10mA
Output	Collector-emitter Breakdown (BV_{CEO}) (note 2)	30			V	I_C = 1mA
	Collector-base Breakdown (BV_{CBO})	70			V	I_C = 100µA
	Emitter-base Breakdown (BV_{EBO})	5			V	I_E = 100µA
	Emitter-collector Breakdown (BV_{ECO})	7			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			50	nA	V_{CE} = 10V
Coupled	Current Transfer Ratio (CTR) (note 2)					
	H11AA4	100			%	±10mAI_F, 10V V_{CE}
	H11AA3	50			%	±10mAI_F, 10V V_{CE}
	H11AA1	20			%	±10mAI_F, 10V V_{CE}
	H11AA2	10			%	±10mAI_F, 10V V_{CE}
	Collector-emitter Saturation Voltage$V_{CE(SAT)}$			0.4	V	±10mAI_F, 0.5mAI_C
	Current Transfer Ratio Symmetry	0.33		3.0		±10mAI_F, 10V V_{CE}
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	See note 1
		7500			V_{PK}	See note 1
	Input-output Isolation Resistance R_{ISO}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)

Note 1 Measured with input leads shorted together and output leads shorted together.
Note 2 Special Selections are available on request. Please consult the factory.

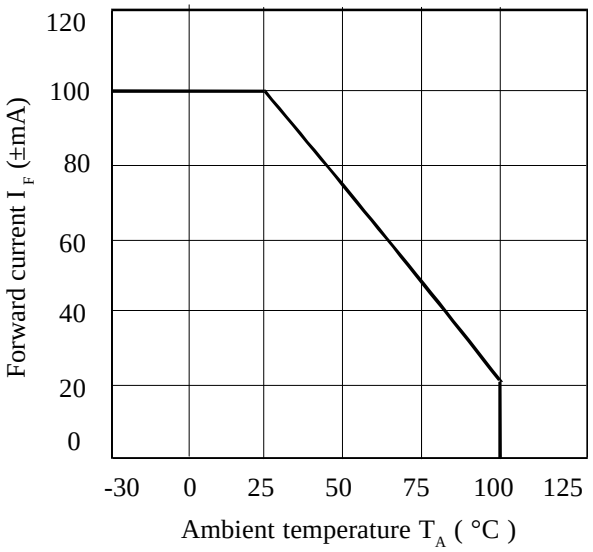
Collector Power Dissipation vs. Ambient Temperature



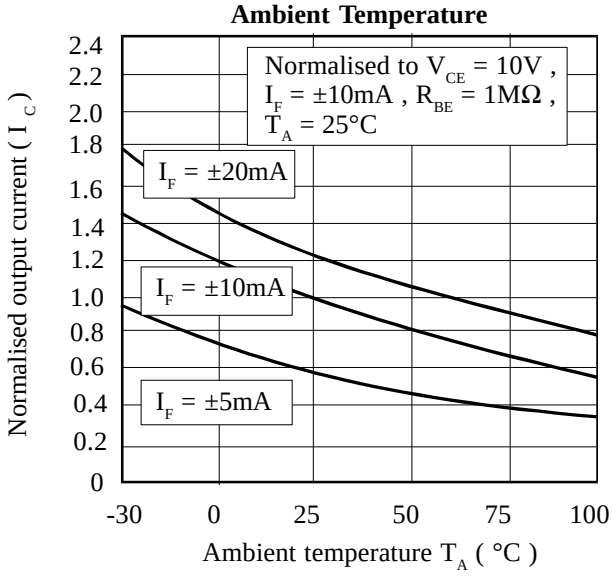
Forward Current vs. Forward Voltage



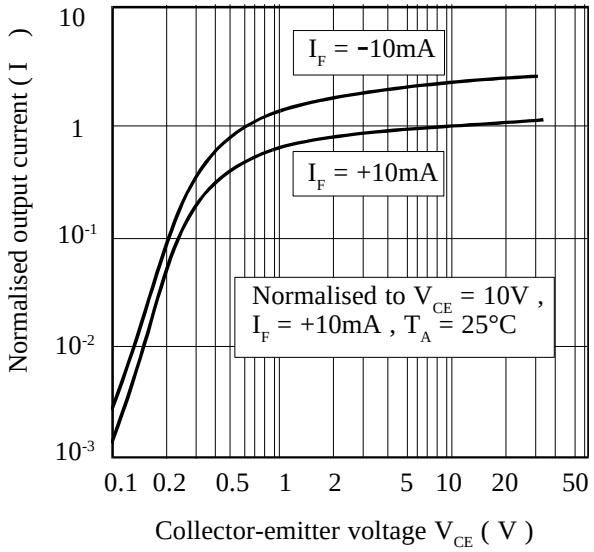
Forward Current vs. Ambient Temperature



Normalised Output Current vs. Ambient Temperature



Normalised Output Current vs. Collector-emitter Voltage



Normalised Output Current vs. Forward Current